

REMARKS

Status of the Claims

Claims 1-20 and new claims 21-23 are pending, with claims 1 and 23 being independent. Claims 1 has been amended to even more clearly recite and distinctly claim the present invention. New claims 21-23 have been added. Support for the amendment and new claims may be found throughout the specification including, for example, at page 6, line 4-7; page 8, line 30 – page 9, line 1; page 15, lines 13-15; page 8, lines 23-27; page 18, lines 13-21; and page 14, lines 22-31. Accordingly, no new matter has been added.

Initially, Applicants would like to thank the Examiner for indicating that claims 4-7 contain allowable subject matter.

Applicants respectfully request the Examiner to reconsider and withdraw the outstanding rejections in view of the foregoing amendments and following remarks.

Specification

The first paragraph of the specification has been amended herein to recite U.S. Application Serial Numbers for patent applications referenced therein.

Claim Rejection Under 35 U.S.C. § 112

Claims 1-3 and 8-20 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly non-enabled for recitation of the claim term “contamination.” Applicants respectfully assert that as disclosed in the specification, the presently claimed process comprises catalytic filtration for removing contamination ***comprising an inorganic component*** from a Fischer-Tropsch derived hydrocarbon stream. Accordingly, claim 1 has been amended to clarify that the catalytic filtering zone removes ***contamination comprising an inorganic component*** from the filtered hydrocarbon stream. Applicants respectfully submit that the specification does enable one of skill in the art to remove ***contamination comprising an inorganic component*** from a Fischer-Tropsch derived hydrocarbon. Accordingly, withdrawal of this rejection is respectfully requested.

Claim Rejections Under 35 U.S.C. § 102

Claims 1-3 and 9-15 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 4,684,756 ("Derr"). Applicants respectfully disagree with the rejection; therefore, this rejection is respectfully traversed.

Derr discloses a process for upgrading wax from a Fischer-Tropsch synthesis wherein the wax is converted by hydrocracking, dewaxing or by catalytic cracking with a low activity catalyst to provide a highly olefinic product which may be further converted to premium quality gasoline and/or distillate fuel. (Abstract). In the process of Derr, the product withdrawn from the slurry Fischer-Tropsch (SFT) reactor is sent to a catalyst/reactor wax separation zone 7 for recovery of catalyst. (Col. 5, lines 26-31). Derr discloses that the catalyst can be separated from the liquid wax to recycle the catalyst to the reactor by filtration and/or magnetic separation. (Col. 5, lines 31-33). Derr further discloses that the recovered wax may then be filtered to remove traces of the Fischer-Tropsch catalyst which otherwise may interfere in further processing of the wax. (Col. 5, lines 33-41). Accordingly, Derr discloses a conventional filtration process to remove traces of the Fischer-Tropsch catalyst. Derr discloses that the wax is then catalytically converted by either hydrocracking or dewaxing. (Col. 5, lines 48-52).

In contrast, the presently claimed methods of removing ***contamination comprising an inorganic component*** from a Fischer-Tropsch derived hydrocarbon stream comprise filtering a Fischer-Tropsch derived hydrocarbon stream to produce a filtered hydrocarbon stream. The filtered hydrocarbon stream is passed to a catalytic filtering zone. The ***catalytic filtering zone*** contains a catalyst comprising at least one metal selected from the group consisting of Group VI and Group VIII elements at conditions sufficient to ***remove*** at least a portion of the ***contamination comprising an inorganic component*** from the filtered hydrocarbon stream, thus forming a purified hydrocarbon stream. The purified hydrocarbon stream is passed to a hydroprocessing zone, and at least one fuel product is recovered from the hydroprocessing zone.

To anticipate a claimed invention under §102, a reference must teach each and every element of the claimed invention. *See Lindeman Maschinenfabrik GmbH v. American Hoist and Derrick Company*, 221 USPQ 481, 485 (Fed. Cir. 1984). It is respectfully submitted that in no way does Derr disclose or suggest the presently claimed methods. As described above, Derr discloses a process for upgrading wax from a Fischer-Tropsch synthesis comprising

sending the product withdrawn from the slurry Fischer-Tropsch (SFT) reactor to a catalyst/reactor wax separation zone 7 for recovery of catalyst; filtering the wax recovered from the separation zone to remove traces of the Fischer-Tropsch catalyst; and then catalytically converting the wax by either hydrocracking or dewaxing. Accordingly, Derr discloses a conventional filtration process to remove traces of the Fischer-Tropsch catalyst. In contrast, as disclosed in the present specification, using the methods of the presently claimed invention substantially avoids plugging of catalyst beds that otherwise would be caused by contamination in *conventionally filtered* Fischer-Tropsch derived hydrocarbon streams. (specification, page 6, lines 21-24).

Accordingly, in no way does Derr disclose or suggest a method of removing *contamination comprising an inorganic component* from a Fischer-Tropsch derived hydrocarbon stream comprising filtering a Fischer-Tropsch derived hydrocarbon stream to produce a filtered hydrocarbon stream; passing the filtered hydrocarbon stream to a *catalytic filtering zone*, the *catalytic filtering zone* containing a catalyst comprising at least one metal selected from the group consisting of Group VI and Group VIII elements at conditions sufficient to *remove* at least a portion of the *contamination comprising an inorganic component* from the filtered hydrocarbon stream, thus forming a purified hydrocarbon stream; passing the purified hydrocarbon stream to a hydroprocessing zone; and recovering at least one fuel product from the hydroprocessing zone.

As Derr does not disclose each and every element of the claims, it cannot anticipate the presently claimed invention. Accordingly, withdrawal of the rejection under 35 U.S.C. § 102(b) is respectfully requested.

Claim Rejections Under 35 U.S.C. § 103

Claims 16-20 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Derr in view of CN-1401427. Applicants respectfully disagree with the rejection; therefore, this rejection is respectfully traversed.

As described above, Derr discloses a process for upgrading wax from a Fischer-Tropsch synthesis comprising sending the product withdrawn from the slurry Fischer-Tropsch (SFT) reactor to a catalyst/reactor wax separation zone 7 for recovery of catalyst to recycle to the reactor; filtering the wax recovered from the separation zone to remove traces of the Fischer-Tropsch catalyst; and then catalytically converting the wax by either hydrocracking or

dewaxing. Accordingly, Derr discloses a conventional filtration process to remove traces of the Fischer-Tropsch catalyst.

CN-1401427 is cited as disclosing a process for removing metal containing catalyst from a hydrocarbon feed by treating the feed with nitric acid before filtering. Accordingly, CN-1401427 is cited merely as disclosing as an acid treatment step.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP § 2143.

Applicants respectfully submit that even if there were some suggestion or motivation to combine Derr and CN-1401427 and a reasonable expectation of success, Derr and CN-1401427, even when combined, do not disclose or suggest all the claim limitations of claims 16-20. As described above in detail with regard to the rejection under 35 U.S.C. §102(b) above, the presently claimed methods are significantly different than the process of Derr, as Derr merely discloses a conventional filtration process to remove traces of the Fischer-Tropsch catalyst. CN-1401427 is cited merely as disclosing an acid treatment step. Accordingly, as cited, CN-1401427 fails to cure the above-noted deficiencies with respect to Derr. As such, even if combined, Derr and CN-1401427 do not disclose or suggest the presently claimed methods of removing **contamination comprising an inorganic component** from a Fischer-Tropsch derived hydrocarbon stream comprising filtering a Fischer-Tropsch derived hydrocarbon stream to produce a filtered hydrocarbon stream; passing the filtered hydrocarbon stream to a **catalytic filtering zone**, the **catalytic filtering zone** containing a catalyst comprising at least one metal selected from the group consisting of Group VI and Group VIII elements at conditions sufficient to **remove** at least a portion of the **contamination comprising an inorganic component** from the filtered hydrocarbon stream, thus forming a purified hydrocarbon stream; passing the purified hydrocarbon stream to a hydroprocessing zone; and recovering at least one fuel product from the hydroprocessing zone.

Therefore, for at least the above described reasons, withdrawal of the rejection under 35 U.S.C. § 103(a) is respectfully requested.

Conclusion

Without conceding the propriety of the rejections, the claims have been amended, as provided above, to even more clearly recite and distinctly claim Applicants' invention and to pursue an early allowance. For the reasons noted above, the art of record does not disclose or suggest the inventive concept of the present invention as defined by the claims.

In view of the foregoing remarks, reconsideration of the claims and allowance of the subject application is earnestly solicited. In the event that there are any questions relating to this application, it would be appreciated if the Examiner would telephone the undersigned attorney concerning such questions so that prosecution of this application may be expedited.

In the event any further fees are due to maintain pendency of this application, the Examiner is authorized to charge such fees to Deposit Account No. 02-4800.

Respectfully submitted,

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